

§Appl. No. 09/965,807  
Amdt. dated January 26, 2006  
Reply to Office Action of, October 7, 2005

**Listing of Claims:**

Please **amend** the claims as follows:

**Claim 22 (Currently Amended)** An isolated human aspartoacylase polypeptide having either an altered ability to hydrolyze N-acetyl-aspartic acid to aspartate and acetate, as compared with a wild-type human aspartoacylase, or incapable of hydrolyzing N-acetyl-aspartic acid to aspartate and acetate, and comprising the amino acid sequence SEQ ID NO: 2 of wild-type human aspartoacylase, except that said sequence has one or more of the following amino acid substitutions:

E285 > A,

Y231 > X, and/or

A305 > E,

whereby E is glutamate, A is alanine, Y is tyrosine, and X is any naturally-occurring amino acid.

**Claim 23 (Cancelled)**

**Claim 24 (Previously Presented)** A human aspartoacylase of claim 22, wherein the glutamic acid at amino acid position 285 is substituted by alanine.

**Claim 25 (Cancelled)**

**Claim 26 (Cancelled)**

**Claim 27 (Cancelled)**

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<b>Claim 28</b>	<b>(Cancelled)</b>
<b>Claim 29</b>	<b>(Cancelled)</b>
<b>Claim 30</b>	<b>(Cancelled)</b>
<b>Claim 31</b>	<b>(Cancelled)</b>
<b>Claim 32</b>	<b>(Cancelled)</b>
<b>Claim 33</b>	<b>(Cancelled)</b>
<b>Claim 34</b>	<b>(Cancelled)</b>
<b>Claim 35</b>	<b>(Cancelled)</b>
<b>Claim 36</b>	<b>(Cancelled)</b>
<b>Claim 37</b>	<b>(Cancelled)</b>
<b>Claim 38</b>	<b>(Cancelled)</b>
<b>Claim 39</b>	<b>(Cancelled)</b>
<b>Claim 40</b>	<b>(Cancelled)</b>
<b>Claim 41</b>	<b>(Cancelled)</b>
<b>Claim 42</b>	<b>(Cancelled)</b>
<b>Claim 43</b>	<b>(Cancelled)</b>
<b>Claim 44</b>	<b>(Cancelled)</b>
<b>Claim 45</b>	<b>(Cancelled)</b>
<b>Claim 46</b>	<b>(Cancelled)</b>
<b>Claim 47</b>	<b>(Cancelled)</b>
<b>Claim 48</b>	<b>(Cancelled)</b>
<b>Claim 49</b>	<b>(Cancelled)</b>
<b>Claim 50</b>	<b>(Cancelled)</b>
<b>Claim 51</b>	<b>(Cancelled)</b>
<b>Claim 52</b>	<b>(Cancelled)</b>
<b>Claim 53</b>	<b>(Cancelled)</b>

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**Claim 54** (Cancelled)  
**Claim 55** (Cancelled)  
**Claim 56** (Cancelled)  
**Claim 57** (Cancelled)  
**Claim 58** (Cancelled)  
**Claim 59** (Cancelled)  
**Claim 60** (Cancelled)  
**Claim 61** (Cancelled)  
**Claim 62** (Cancelled)  
**Claim 63** (Cancelled)  
**Claim 64** (Cancelled)  
**Claim 65** (Cancelled)  
**Claim 66** (Cancelled)

**Claim 67** (Previously Presented) A recombinant and purified human aspartoacylase capable of hydrolyzing N-acetyl aspartic acid to aspartate and acetate, comprising an amino acid sequence which has a sequence identity of at least 95% to the sequence of SEQ ID NO: 2.

**Claim 68** (Previously Presented) A fragment of a recombinant human aspartoacylase of claim 67, comprising an aspartoacylase epitope which is immunologically-effective to elicit antibodies that selectively bind to said human aspartoacylase and which is capable of hydrolyzing N-acetyl aspartic acid to aspartate and acetate.

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**Claim 69 (Previously Presented)** A pharmaceutical composition, comprising an isolated wild-type human aspartoacylase comprising the amino acid sequence SEQ ID NO: 2, and a pharmaceutically acceptable carrier.

**Claim 70 (Cancelled)**

**Claim 71 (Previously Presented)** An isolated and purified wild-type human aspartoacylase comprising the amino acid sequence SEQ ID NO: 2, which is free of other human proteins.

**Claim 72 (Previously Presented)** A preparation which consists essentially of a wild-type human aspartoacylase comprising the amino acid sequence SEQ ID NO: 2.

**Claim 73 (Cancelled)**

**Claim 74 (Previously Presented)** A human aspartoacylase comprising the amino acid sequence SEQ ID NO: 2, or comprising an amino acid sequence which has a sequence identity of at least 95% to the sequence of SEQ ID NO: 2 produced by,

(a) culturing a host cell transformed with a vector comprising a DNA which encodes for said human aspartoacylase in a cell culture medium under conditions whereby the

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aspartoacylase is expressed, and

(b) isolating the thus-produced aspartoacylase.

**Claim 75 (Previously Presented)** A human aspartoacylase comprising the amino acid sequence SEQ ID NO: 2, or comprising an amino acid sequence which has a sequence identity of at least 95% to the sequence of SEQ ID NO: 2, produced in a bacterium, a fungus, or a non-human mammalian cell.

**Claim 76 (Cancelled)**

**Claim 77 (Cancelled)**

**Claim 78 (Cancelled)**

**Claim 79 (Cancelled)**

**Claim 80 (Cancelled)**

**Claim 81 (Cancelled)**

**Claim 82 (Cancelled)**

**Claim 83 (Cancelled)**

**Claim 84 (Cancelled)**

**Claim 85 (Cancelled)**

**Claim 86 (Cancelled)**

**Claim 87 (Cancelled)**

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**Claim 88 (Cancelled)**

**Claim 89 (Previously Presented)** An isolated human aspartoacylase capable of hydrolyzing N-acetyl aspartic acid to aspartate and acetate, comprising the amino acid sequence SEQ ID NO: 2, or comprising an amino acid sequence which has a sequence identity of at least 95% to the sequence of SEQ ID NO: 2, which is produced by expressing a DNA coding for said aspartoacylase in a non-human mammalian host cell.

**Claim 90 (Previously Presented)** An isolated human aspartoacylase of claim 89, comprising the amino acid sequence SEQ ID NO: 2.

**Claim 91 (Cancelled)**

**Claim 92 (Previously presented)** A recombinant human aspartoacylase having either an altered ability to hydrolyze N-acetyl-aspartic acid to aspartate and acetate, as compared with a wild-type human aspartoacylase, or incapable of hydrolyzing N-acetyl-aspartic acid to aspartate and acetate, and comprising an amino acid sequence which has a sequence identity of at least 95% to the sequence of SEQ ID NO: 2.

**Claim 93 (Previously presented)** A fragment of a human aspartoacylase comprising SEQ ID NO: 2, which is immunologically-effective to elicit antibodies that selectively bind to said human aspartoacylase.

**Claim 94 (Previously presented)** A fragment of claim 93, wherein said fragment comprises at least 26 amino acids.